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ALCATEL FIT No. 103472 "Tailoring Surface of Slanted Bragg Gratings"

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Patent Claims

1. Fiber grating filter optical waveguide device, comprising an optical fiber with an optical filter, both consisting essentially of silica, whereby said optical filter has an area with a grating region,
wherein

the fiber grating filter is a slanted Bragg grating filter and
said area with a grating region is covered with a layer comprising a material having a refractive index which is the same or higher than the refractive index of the material of the optical fiber cladding
and the material is attached by covalent bonds of the material.

2. Device according to claim 1, wherein the material is made from a monomeric and/or oligomeric precursor material.

3. Device according to claim 1, wherein the material contains hydrolyzable functional groups.

4. Device according to claim 1, wherein the precursor material and the material contain at least one element selected from Si, Al, Ti, Sn, Ni and/or mixtures thereof.

5. Device according to claim 1, wherein the precursor material and the material contain organic groups.

6. Device according to one of the preceding claims, wherein the optical fiber has a core region and an outer region, whereby the core region displays a lower photosensitivity with respect to the outer region.

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